UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PUBLIC MEETING AND COMMENTS ON THE

PREFERRED CITYWIDE REMEDY

STUYVESANT HIGH SCHOOL

NEW YORK, NEW YORK

ADDRESSING POLYCHLORINATED BIPHENYLS (PCBs)

PRESENT IN THE CITY'S SCHOOLS

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Reported by:

Maria R. Lucarelli

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T R A N S C R I P T of the proceedings in the above-entitled matter being taken by MARIA R. LUCARELLI, a Notary Public of the State of New York, held at the STUYVESANT HIGH SCHOOL, 345 Chambers Street, New York, New York 10282.

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(THE PROCEEDING OPENED AT 6:30 P.M. AS FOLLOWS:)

MS. AYALA: Good evening, my name is Wanda Ayala and I am a community Involvement Coordinator for the EPA Region 2 in New York City, and I want to thank all of you for being here with us tonight.

The purpose of this meeting is to get your input on New York City's Preferred Remedy on the issue of PCBs in schools.

And, I want to introduce to you our EPA team tonight. We have Jim Haklar, who is going to be our presenter, and Susan Schulz. And, we have some subject matter experts here. Mark Maddaloni, who is a toxicologist and a risk assessor. For the City of New York, Gary Hunt will be the presenter. And, we have other subject matter experts from the City here also.

The way the meeting is going to work tonight is that we're going to have a brief presentation that's going to flow; there's going to be an EPA presentation and the City is going to have a part in it, and the two presentations are just going to flow into each other. And then we're going to be opening up the floor for

questions and comments. So, probably now -- oh, before that, I'm sorry, we have Spanish interpreters and Chinese interpreters in the room tonight for anyone that needs assistance with that. And, we have our stenographer, Maria, here with us because she's making a transcript of the meeting. When we open up the floor for questions and comments, there were number cards outside, so we're going to call people in the order -- the numerical order, so if you're number one, be ready.

So without further ado, I'll pass it over to Jim.

(POWERPOINT PRESENTATION BEGINS)

MR. HAKLAR: Thank you, Wanda.

And good evening, everybody. Let's just -- let's just ask ourselves: Why are we -- why are we here tonight with all the rain? We're here tonight because we want to hear your comments on the City's plan to address PCBs in -- in the schools. And, you can provide comments tonight. You could send comments by regular mail to myself at that address (indicating) or you can e-mail

comments to pcbpreferredremedy.region2@epa.gov. These addresses are on the flyers.

So, let's start with just a little bit of some background on PCBs. What are PCBs? They're manmade chemicals. They were manufactured for about 40, 50 years from about 1930 to the late 1970s. They were very valuable in industry. They were almost like -- like the miracle chemical. They had very special properties. They -- they were good -- they were -- they were used in electrical equipment. They were used in building materials. And, just to give you an example. In caulk, it was -- PCBs were put into caulk to make it flexible and to last long, but there's a downside to the PCBs, that they are hazardous and they're potentially cancer-causing, and because of -- of that, in the late 1970s, Congress and EPA banned the manufacture of the chemical.

Okay. So -- so, how did we actually find -- find out about PCBs in the New York City schools? Well, there were several private individuals that would walk up to -- walk up to several schools and -- and collect pieces of the caulk and they would have the caulk analyzed at a laboratory and once they -- they did that, they

provided it to EPA and actually to the -- to the -- to -- to the newspaper, to the New York Daily News, the -- the laboratory results, and once we saw the results, we decided this is a situation that needs to be -- needs to be dealt with, and we started having discussions with New York City and those discussions lead to a -- an agreement, or formal agreement, which -- which we call a consent agreement with New York -- with New York City to deal with the situation. And, that agreement was signed by EPA in New York City like about four-and-a-half years ago. It required that the City -- to perform a study, which we -- we call a Pilot Study, of PCBs in five older schools and those five schools were -- were selected to be representative of typical school construction, one from each borough, and -- and they did have PCBs in the building material. And, based on -- based on what was found during the Pilot Study, New York City prepared a report with -- with their recommendations, which -- and -- and -- and that -- those recommendations are what are called a Preferred Citywide Remedy.

Okay. Now, I'm going -- I'm going to hand this off to Gary Hunt from -- from TRC, who

is a consultant with New York City, and he will discuss, in a little more detail, the Pilot Study.

MR. HUNT: Thank you, Jim.

Good evening, everybody. Thanks for coming. I know it's raining outside. I just got in here just in time before it came. I'm Gary Hunt. I work for TRC Corporation. I'm the principal scientist and vice president, and I'm a member of the project team that's been working on the Pilot Study for the City of New York for the last four years, and I'm here tonight to give you a summary of the Pilot Study and then the citywide remedy.

We're going to talk about the background of the Pilot Study addressing PCB in caulk, the results, the Preferred Citywide Remedy, and then the long-term monitoring.

PCBs are still talked about on a widespread industrial use. They were manufactured during the period of 1925 to 1978 and 1.4 billion pounds were manufactured and placed and used principally in electrical components, like transformers, capacitors, and some percentage of it was actually used in building materials, like caulk, and capacitors, for ballasts and other

building materials. Beginning in 1950, caulk contained PCBs was used in constructing big buildings throughout the entire country, notwithstanding the manufacturing ban of PCBs in 1978 with the onset of the Toxic Substances Control Act or TSCA. And then, EPA issued some guidance on caulk in September of 2009, and this is again focused on PCBs contained in caulk within building materials.

The Pilot Study. In January of 2010, the City reached an agreement with EPA, which is called a Consent Agreement and Final Order, regarding what will be done with respect to investigating the occurrences of caulk within five pilot schools. These pilot schools were chosen with EPA as being representative of the New York Citywide population in the school buildings. The ultimate goal of the Pilot Study was to develop a citywide approach for a remedy for assessing and managing caulk in schools built between the prevalent period of 1950 to 1978. By the way, this is the first and only study in the US of its type and magnitude.

What was done? Some background. We looked at a number of remedial alternatives for

caulk. Okay. The primary focus initially was on caulk, PCB caulk. We looked at a removal and replacement of the caulk, a patching and repair of what appeared to be deteriorating PCB caulk, in pilot schools, and then encapsulation of the caulk, which is a way of putting a coating on it to try to prevent PCBs from migrating out of the caulk into the air. Then, after an initial investigation, we began it in other schools; removal of windows with PCB caulk, and then the removal of light ballasts. One particular school was investigated and then as a supplemental remedy, the removal of ballasts was instituted in all of the other schools, and this turned out to be the principal source of PCBs in the schools.

To back up, there were five schools chosen: PS 170X, 176X was basically investigated for patch of repair of PCB caulk; PS 199, the focus was the removal and replacement of PCB caulk as the remedial alternative; PS 309, a encapsulation of the caulk, as I mentioned, coatings were applied to keep PCBs from migrating; PS-3R was focusing initially for ballasts removal, ultimately ballasts removal was instituted in the other schools as well as a supplemental remedy;

and window replacement in PS 183Q. Last, but not least, the PCB light fixtures were ultimately removed from all five pilot schools and this is important because this was identified as the principal source of PCBs within a school where those ballasts were.

What type of monitoring that was done. Monitoring was done pre-remedial activity, post-remedial activity, so a large number of samples were taken in the pilot studies. Pre-remedial investigations looked at the air, dust, and soil: Soil outside of the school; air and dust within the school. Also, post-remedial PCB air and dust wipe sampling from the exact same location, so we could evaluate changes and trends before it happened. That's all.

Wipe samples; 430 wipe samples pre- and post-remedial activities, which is dust, cleaning, removal, normal maintenance-type activities in the schools were conducted. Only in one of those 430 samples was it found to be above, initially, the PCB Guidance Values, which is 10 micrograms per 100 square centimeters, so you wipe a 100 square centimeter surface and you have it analyzed and the value is 10 micrograms. And, on re-analysis

of that one location was found not to be above the guidance and values, so everything is within the EPA Guidance and Values, and what we concluded from that, routine housekeeping practices were sufficient to keep PCBs in the schools, the pilot schools, below the guidance values. That was good timing.

Air samples. We took 1100 PCB air samples in the pilot schools, again pre- and post-remedial alternatives that were conducted in each of those schools; not all of the same remedial alternatives were done at each and every school. Again, this is a Pilot Study research to identify what worked and what didn't work. The greatest reductions in airborne PCB were seen following the removal of the light ballast fixtures, and that was through all the schools that were examined. And this, as I said, was done in the initial focus of the Pilot Study, but it became very apparent early on in the study that ballasts were contributing to PCBs, particularly in the air and then the removal of those needed to be a priority.

Discussions of results. PCBs in buildings is a very complex problem. It's not

easy. And, early on, we start to take the caulk out, encapsulate the caulk, fix the caulk, the problem is gone; not so. We've got ballasts to worry about, we've got caulk to worry about, and other sources that may be present. Light fixtures should be addressed first and the City has, indeed, made that their number one priority in this citywide remedy to remove the ballasts in those schools that contain the capacitors of PCBs in them. The caulk needs to be managed and assessed on an ongoing basis. There's no magic solution for the caulk. No one thing works best everywhere. PCBs may also be present on the building materials and furnishings and these can be referred to as potential secondary sources, not as high in concentration as your primary sources of ballasts and caulk, but they may be present nonetheless. And, more research is really needed.

A little about the ballasts removal program, which is a focal point or one of the significant pieces of the Preferred Citywide Remedy. Two-hundred-and-thirty-eight school buildings were identified as having the ballasts that may contain PCB-contained capacitors. Again, PCBs were used in electrical components, such as

capacitors. These projects are early ongoing in 173 of those schools, and this program is scheduled to be completed by December 31, 2016. In other words, all ballasts containing PCBs in all the New York City schools will have them removed by December 31, 2016.

The citywide remedy. Of course, as I mentioned just a moment ago, are the preferred or the most -- the most important PCB Preferred Citywide Remedy is the removal of the PCB ballasts and that program is in the works and it's working as we speak. Protocol to inspect and respond to ballast issues when there's a ballast failure or event, there has been a protocol that's been developed with EPA for dealing with that. Implement best management practices. Again, inspection and remediation of caulk ensued. Inspect and maintain ventilation systems per their design ventilation is an important piece of the program. Remove caulk during capital improvement projects, so if there's a capital improvement project in a school that involves caulk, that caulk would be -- would be removed as part of that capital improvement project under EPA-approved construction protocols. Evaluate, excavate and

replace any soil associated with capital improvement project. And again, this is exterior soils, outside the school building, that may have PCB contamination. The long-term monitoring program continues, and, I'll have a slide on that in a moment, that continues as we speak in the pilot schools. And, additional studies have been worked out and have been developed with EPA to continue to gather data to determine the next steps and expand the research.

The long-term monitoring program. Air sampling continues to take place in the pilot schools and current with the heating seasons; heating season on, heating season off. Bulk sampling of remediated caulk and wipe sampling of encapsulated caulk. In other words, encapsulated caulk has the coating on it. We're looking at the surfaces over time to see if any PCBs migrate to the surfaces after the encapsulation process has taken place.

MR. HUNT: I think that's it. Is there one more slide?

MS. SCHULZ: No.

MR. HUNT: No.

I'll give it back to Jim.

MR. HAKLAR: Thank you, Gary.

MR. HUNT: Thank you.

MR. HAKLAR: All right. Let's talk a little bit about what EPA's agreement with New York City has in it. One of the things that the agreement requires is that EPA hold what's called a peer review. Now, what is a peer review? You have to think of it as if you were writing something that you were going to mail out and then you gave it to someone else impartial to review, just to make sure that there were no mistakes or -- or errors, and we had technical experts review the City's work. The agreement with New York City also required EPA to hold this public meeting and that's why we're holding it tonight and we are holding it in the other boroughs.

Okay. So, some points about the peer review. The peer review was what we call independent. EPA had its contractor manage the peer review. We did not have any direct contact with the peer reviewers. There were three -- three professionals: Two reviewers were from private industry, the environmental field; and one was from Academia, a major university in the northeast. And, EPA, provided our consultants

too, with a set of questions for the peer reviewers to answer, and those questions were shared with New York City for their input prior to giving them to the -- to the consultant.

All right. So, once -- once the peer reviewers were done with the overall documents, EPA's consultant prepared a final report for us. We reviewed the report and we developed our own document on our perspectives on what the peer reviewers found and both of those documents can be found at this website (indicating).

Now, I'd like to talk a little bit about the major findings of the peer review. Now, overall, the peer reviewers found the City's report to be comprehensive. They also felt that -- that the City's consultant used appropriate methods during the field work.

We had some very specific questions for the peer reviewers and one of those questions pertained to what we -- what we called the City's re-occupancy protocols. If you're aware, you have older fluorescent lighting, that older fluorescent lighting could contain PCBs in an electrical component called a ballast and if that ballast is very old, it could fail, it could leak or smoke.

And, the City has an established protocol for responding to those instances of leaks or smokes. It's basically a four-step procedure where they evacuate the people in the infected area, they notify the appropriate parties, they ventilate and they clean, and then they perform what's called wipe sampling where they actually take a -- a -- where -- where the City's contractor will take a special gauze and rub it over -- over a surface in, let's say, for example, the classroom desk or a ledge, to see if the ballast -- if the leaking or smoking ballast had positive PCBs. We asked the peer reviewers: Was wipe sampling alone sufficient for -- for this -- this whole -- this step of sampling and some of the peer reviewers believed that wipe sampling alone was not adequate.

We also asked, you heard Gary talk about, the -- the -- the options that were evaluated during the Pilot Study on how to deal with PCB caulk. We ask -- or we've asked the peer reviewers to -- to come up with -- with additional recommendations. And, one of the things you have to realize is that PCBs, if they're in building materials, there's some potential for them to

move. If you had PCB caulk, which was over, let's say, masonry, or brick, or concrete, in a lot of instances, those PCBs may start moving into the concrete and they not only can move into the concrete, but they can move into the air, and what EPA's Office of Research and Development found was that, that movement of the PCBs into the air was the most significant, what we call, route of exposure. That's the main way that people in a building can get exposed to PCBs by inhaling them from the air. Now, the peer reviewers, what they -- what they recommended was -- was looking at physical barriers; plastic tape, like chips in board, things like that, or even aluminum strips to -- to isolate the PCBs or even to chemically treat the caulk to reduce the levels of PCBs.

All right. One of the other areas that we've asked the peer reviewers to look at was prioritizing schools to address PCBs. We've got -- we've got several hundred schools. It's a major, major scope, and how do you deal with it? And, some of the peer reviewers believed that proactively addressing PCBs -- the PCBs would significantly reduce exposure. Well, what are we talking about here? We're talking about actually

going out there now instead of waiting for routine construction or renovation projects. And, all three reviewers believed that air sampling would be an effective component of prioritizing the schools.

And, we also had -- we -- we also had a question on ventilation and all three peer reviewers recommended that the ventilation in the schools be made the best setting possibly that it could. Now, not only would that help reduce exposure, it reduces concentrations of the PCBs in the -- in the air, but also helps for things like mold, you know, similar -- similar situations and this is very important because in a lot of schools, the schools were initially built with windows that could open. Well, when -- when -- when those schools are renovated, in certain instances, they're renovated with windows that can't open and -- and that -- and that's a concern because -- because the schools need the windows to open for the ventilation systems to operate properly. We also -- we also had the peer reviewers look at housekeeping or what we call best management practices. Now -- now, a few minutes ago, Gary mentioned about how PCBs were

put into building caulk to make it flexible. Well, that was very -- a very successful operation because there are incidences when we found caulk that's 40 years old that looks like it was put in place a month ago, and it really keeps the caulk flexible. But we looked at -- but we asked the -- the peer reviewers: Should the City be focusing on intact caulk, you know, flexible caulk, should they be looking at deteriorated caulk? If you went outside a building, sometimes you'll see caulk that -- that -- that looks like it's flaking or -- or peeling. And, the -- and the peer reviewers basically had varied responses. One said: Look at -- look at the intact caulk; another said: Look at both. So it -- it varied.

Okay. Now, we also asked the peer reviewers with a question on soil. You heard Gary mention a little bit about -- about the soil around the schools. We believe that where there was old construction, there -- involving PCB caulk, there could -- there's the possibility of -- of caulk, little pieces of caulk, having gotten into the soil and contaminating the soil, and the peer reviewers didn't believe that by going out now and looking at all the soil in the schools,

that, that would significantly reduce the risk or the exposure and that's because, again, the main route, the main way that people get exposed is through -- through the air, not through touching or walking over soil.

Okay. So, let's start talking about next steps. EPA's taking comments until the end of the month. And, in accordance with our formal agreement with New York City, once we review all the public comments and we take into consideration the peer review responses, we may incorporate revisions to the City's Preferred Citywide Remedy.

Some more next steps. The City's Preferred Citywide Remedy discussed -- discussed some information gaps and after discussing information gaps with the City, EPA recommended two areas for research and one of them, the first one, is testing different sampling methods for indoor air and caulk; and then the second one was -- was -- was really looking at, really trying to refine or get a better handle on what is the contribution of -- of the PCBs in the caulk or other building materials to the indoor air. We know that removing the light fixtures is a really good step, and -- but is that enough? Is that the

only thing or is there other -- other -- are there -- are -- is the caulk or other building materials contributing to the PCBs in the air.

All right. And, just to start wrapping up, just a couple points to remember. There's been a lot of work done in the last four-and-a-half years, a lot of good scientifically valuable work, on -- on PCBs in schools. We have a better understanding of where PCBs can be found in schools. And -- and, just to reiterate, by removing the light fixtures, the City's taking a major source of -- of -- of PCBs out of the schools.

And -- and -- and lastly, your comments really do matter.

And, just -- this is just a recap of the City's Preferred Citywide Remedy.

And again just where you can send comments to (indicating).

And, at this -- and, at this point, we'll -- I believe we'll open up the meeting to comments.

(POWERPOINT PRESENTATION ENDS)

MS. AYALA: Before me move to questions

and comments, I would just like to acknowledge some representatives for some local electives that are here tonight and they have brief statements to make.

(STATEMENTS FROM REPRESENTATIVES OF LOCAL ELECTIVES)

MS. BANGS: Hi everyone, my name is Molly Bangs. I'm a community liaison for New York City Council Member Cory Johnson, and I will be reading testimony for Council Member Johnson tonight.

Good evening, I am Council Member Cory Johnson, and I represent District 3 in the New York City Council, which covers Hell's kitchen, Chelsea, the West Village, and parts of Soho, and the Upper West Side.

I'd like to thank the United States of Environmental Protection Agency for holding this hearing today and for giving me the opportunity to testify. Polychlorinated Biphenyls, or PCBs, are toxic mixtures of manmade chemicals used in fluorescent light ballasts. In 1979, the EPA banned the use of PCBs, except in totally enclosed equipment because of their dangerous toxic

effects. However, a significant number of light ballasts installed prior to these bans may still contain PCBs and are still in use in many American schools, including public schools in my council district. I am here to testify on the Pilot Study put forth by the New York City Department of Education and the New York City School Construction Authority as well as the external peer reviews conducted by the EPA in response to the Pilot Study. During the prior study, four different remedial approaches to confront the issue of PCBs were initially identified. The patch or repair of caulk, the encapsulation of caulk, the removal of old caulk and replacement of new caulk, and the best management practices, which is to say, the use of remedial sampling to get from each pilot school building to evaluate its effectiveness of current operation and maintenance practices. Two approaches were added as the study progressed; the removal of PCB caulk associated with window frame removal or replacement as well as the removal and replacement of light fixtures that has ballasts that contain PCBs. The Pilot Study resulted in numerous findings. In terms of caulk to be found in PCBs

from original caulk, it can penetrate and contaminate replacement caulk, meaning that without extra efforts to isolate and/or treat original caulk, the removal or replacement of PCB caulk using the Pilot Study is ineffective. In terms of encapsulation, the coatings used in methods employed in the Pilot Study also did not prevent caulk from migrating to the encapsulated layer to the surface over time. Perhaps most significantly, the study then found that there are materials containing PCBs other than caulk that contribute to higher PCB concentrations in room air. One of the largest sources of the airborne PCBs appear to be from leaking light fixture ballasts. The removal or replacement of these light fixtures proved to significantly reduce PCB levels. The amount of fresh air that enter buildings also significantly lowered PCB levels calling for better ventilation in schools. Carbon filtration too proved itself to be effective in reducing airborne PCBs. The pilot studies declared that between caulk remediation by the light fixture and ballast removal, cleaning and ventilation, the Pilot Study showed an average decrease in 74 percent demonstrating its overall

effectiveness. I am pleased that this Pilot Study has taken place and agree with the following: The need to remove the light fixtures ballasts that have been accountable for much airborne PCBs as well as the need for enhanced ventilation systems in schools. However, there are also elements to the study, such as its approach to PCB in caulk that are clearly problematic and require further attention and action. As highlighted by the EPA in their external peer review, emissions in caulk as well as leaking ballasts in light fixtures have also contaminated a wide range of other building materials over time, which may be re-emitting PCBs into the air. I agree with the EPA's experts in that it decontamination of treatment options should be integrated into caulk removal options. Giving that recontamination is so common, isolating PCB-containing caulk to eliminate migration into both replacement caulk and encapsulating coating is imperative. I also agree that air testing is a better option than an individual inspection protocol as it can detect emissions from PCB sources other than just light ballasts. Given the high number of school children exposed to PCBs from caulk, light

fixtures, and secondarily contaminated materials as well as the cost in nature of ridding schools of the PCBs, the EPA has stated the imperative nature of choosing the best long-term solutions to the problem. I support that finding and ask for a swift implementation of these actions.

Thank you again for allowing me to submit this testimony this evening.

MS. AYALA: Next speaker.

MS. MIZRAHI: Paul very kindly agreed to switch places with me.

My name is Celine Mizrahi. I'm from Congressman Jerrold Nadler's office, and I'm going to read some testimony on his behalf. I'm going to give an abbreviated version tonight and then submit a longer written testimony.

Thank you for the opportunity to submit testimony at today's public hearing. As the congressman for the 10th Congressional District, I've been deeply involved in the issue of PCB remediation in our schools for many years now and have long believed that this is an issue of critical importance for the health and well-being for school children and staff. Public hearings like -- public hearings like today, several

throughout the City, were all envisioned as a critical step in the PCB testing and remediation process as part as the consent agreement and by the advocates and elected officials working on this issue. It is my understanding that EPA has some questions as well, some serious questions, to reflect on as we move forward. As always, my goal is to make certain that the children and the staff in our public schools are safe from the dangers of PCBs and that parents and school communities are fully informed. The light ballast remediation has been moving forward rapidly and I applaud the EPA for their partnership and efforts on this. As this process continues, I urge the EPA to keep school communities informed of plans for remediation in their schools, for the parents who have concerns or questions or need answers. It is my understanding that caulk remediation has continued to present serious difficulties. In some instances, such as in PS 199 in my district has required repeated attempts to remove the PCBs and treat the caulk with very nice results. I urge the DOE to continue working with EPA experts on this issue to explore all of the possibilities for remediating PCB-contaminated caulk, including

those discussed by the EPA's peer reviewers. There is a critical importance that we find the permanent solution for contamination in the schools and classrooms. And, we cannot depend on the ventilation, will not work in all classrooms at all times and we must work together to find a comprehensive solution. Additionally, throughout the entire process of advocating for PCB remediation in our schools, I've joined with other elected officials, advocates and parents it calls for ongoing air quality testing in the contaminated schools and the re-occupancy protocols that were mentioned earlier. We simply cannot know whether the PCB problem is ongoing without testing the air and the effects in classrooms in schools. I urge the DOE to verify the results of remediation of light ballasts and the caulk by doing comprehensive air sampling in the infected and potentially infected schools in some areas. This will give comfort to parents in school communities and will also allow for the City to continue improve on its remediation techniques and approaches. Simply put, if something is not working, we need to know, so that we can find a solution. And without comprehensive

etiquette, that does not seem possible.

Lastly, I urge the DOE to make their report summarizing the Pilot Study results accessible to parents and to make the information in the report easily digestible and understood, so that we can have full public engagement on this issue. For example, I don't know if there are plans to make this day's presentations available on the daily website or to the schools, but that would be a great first step.

Thank you for your period of consideration and for all your efforts on this important issue. I hope that we can continue to work together to make certain that our schools are no longer contaminated by PCBs and that the public is informed by means of these important facts.

Thank you.

MR. SAWYIER: Everyone, Good evening, my name is Paul Sawyer. I am here to give testimony on behalf of Assembly Member Linda B. Rosenthal.

I am Assembly Member Linda B. Rosenthal, and I represent the Upper West Side and parts of Clinton/Hell's Kitchen in Manhattan. Since PCBs were first observed in window caulking in PS 199 in Manhattan, a public elementary school in my

district, and one of the five Pilot Study schools, I've been outspoken in my advocacy for a comprehensive and expedited remediation plan that prioritizes the health and safety of the City's students, teachers, administrators, and other school staff. PCBs are a known neurotoxins and suspected carcinogen; long-term exposure have been linked to immune, reproductive, nervous, and endocrine system problems.

After the discovery at PS 199, we learned that PCBs were present in window and other caulking and lighting ballasts at nearly 800 public school buildings citywide. Shortly thereafter, the EPA, the City of New York, with the School Construction Authority entered into a Consent Agreement and Final Order, the subject of this hearing today, to undertake a Pilot Study at five public school buildings to evaluate the efficacy or remediation efforts of PCB caulk and other sources, such as lighting ballasts.

After years of battling the Bloomberg Administration to expedite its timeline for PCB ballast remediation, I am pleased that all public school buildings containing PCB ballasts will be remediated by December 2016, even despite the fact

that this move came only after a legal challenge. I am also gratified that the City has undertaken a rigorous Pilot Study to determine which methods will be most effective in the long term to protect our children and their teachers against PCB exposure.

Though the report upon which my comments are based is comprehensive, it is a complex document replete with scientific jargon, acronyms, mathematical statistics and references to other documents not included within the report itself. I am concerned that the average parent, who works a full-time job and then comes home to child care responsibilities, does not have the time necessary to parse through this report and the voluminous outside documents. It would be helpful if this report and other materials could be made more accessible to parents, who obviously have the most significant interest in ensuring that the City's plan is comprehensive and effective.

With respect to potentially leaking lighting ballasts, I continue to have serious reservations of the efficacy of the visual inspection program performed by custodial staff. While actively leaking PCB ballasts often emit or

leave behind a brown or blackish syrup-like substance, sometimes they do not, and many PCB leaks are both colorless and odorless. Given this reality, I recommend that the City pursue other more effective avenues to identify potentially leaking lighting ballasts. In addition, although I am aware that the SCA has created visual inspection guidance documents for custodial staff, I strongly believe that guidance should be subject to EPA review. What's more, the report provides no safety protocol for the custodial staff who have been tasked with the unenviable responsibility of searching school buildings for toxic leaks. Their health and safety must be prioritized.

In terms of the plans for a response to an actively leaking or smoking ballast, air testing, and not merely wipe sampling, must be performed to ensure that the ambient concentration with PCBs post remediation do not exceed guidance levels set by the EPA for safe exposures to school-aged children. I am the sponsor of legislation that would have required a two-year PCB lighting ballast remediation timeline and post-remediation air testing. If we are really

serious about our commitment to student and teacher safety, air testing must be performed post-remediation in all schools with active PCB leaks. The experiences of the PS 199 community in my district have been illustrative despite the fact that countless wipe samples have shown relatively low PCB levels, air testing has routinely demonstrated that ambient PCB levels have been higher than EPA Guidance. Albeit expensive, post-remediation air testing is the only way to truly guarantee student and teacher health. Historically, when a potentially or actively leaking PCB lighting ballast has been discovered in a classroom or rooms, the affected rooms have been evacuated and closed until testing determines that the room is safe for occupancy or the offending PCB ballasts have been removed and replaced. However, the plan does not address classroom evacuation. It is critical that this plan is clear; that a room must be evacuated until the class is confirmed to be PCB-free by ambient air testing.

I am glad to see that the plan includes a recommendation to create a Citizens Participation Plan to ensure that the affected

school communities and the public at large have an opportunity to participate in PCB remediation process going forward. It is critical that the public be regarded as a partner, yet I continue to harbor concerns. Even after the passage of Local Law 68, which requires school and parental notification of PCB activity within a certain time period, the previous Administration routinely failed to notify parents and school administrators of active PCB leaks or catastrophic PCB ballast failures within the legally mandated time period. I recommend that the final proposal contain a detailed plan for engaging and communicating with the public about the remediation progress and efficacy. Beginning a dialogue with local community education councils would be a good starting point.

New York City's PCB remediation plan will provide a national model that likely will be followed by other states and other school districts across the country, and it is critical that we ensure that our plan is comprehensive, our process is transparent and our results are indisputable. I look forward to working closely with the City and EPA to make all New York City

public school buildings 100 percent PCB-free.

(QUESTION AND COMMENT SESSION BEGINS AS FOLLOWS:)

MS. AYALA: We're going to open it up to the questions and comments now. Anybody coming up, can you come up in the order of the number that you have. So, I'll be calling number two and three. Please identify yourselves for the stenographer to take down names.

MR. HERNANDEZ: Sure. Good evening, I'm Eduardo Hernandez. I'm a parent from the Bronx. My concern -- it look like this containing in place problem sound like just like the OSHA problem for bad asbestos, which every year the federal employees are all required to take mandatory yearly training. And, that kind of program works fine in the workplaces when you're dealing with adults, but we're dealing with kids here. Kids like to poke, shoove, pat, stick their fingers everywhere and then they will eat everything little thing that they can find, so I don't think that just containing in place is an appropriate approach for school kids. Then you have -- you're going to be relying on the

ventilation units. We all know ventilation units go out, they go bad, and for anybody, including the federal or local government, knows when the units go bad, it takes months and years to replace, so that's something that needs to be considered also. The other issue we will be relying on custodial staff to maintain good housekeeping. When the City hires a crew of -- a cleaning crew that will be moving from school to school wiping everything down, nine of the local janitors and custodians just to be wiping all day, I don't think that's going to work either. So, that's my comment. I think you have to look at the -- because I have concerns about the custodians, from what I understood. Somebody explained that most of the samplings were done window open, which is a big bias of your sampling right there. You should do more realistic sampling; you know, window closed, heating full blast, just like the way -- first thing in the morning because even if you have windows open, they close the windows at night, so why isn't the sampling first thing in the morning after the building has been heating up and all these toxic chemicals are being released. Why isn't the

sampling in the morning? You have to look at the worst-case scenario and give me the whole range; not just the best-case scenario.

Thank you.

MR. HAKLAR: I just want -- I just want to make a couple of -- a couple of quick remarks. First of all, to allay your concerns about children touching. We're talking about caulk that is typically a very, very thin strip or a bead. And, we've looked at that. We've looked at the potential for children to touch, to pick, to play, and what we found was that the greatest, the -- the -- the most probable way of -- of getting exposed is not from children playing with the caulk; it was from breathing contaminated air. Just to allay your concern with that. And then, just to make a point about -- about the -- about the windows, we've -- we've heard this comment before. What -- what we have worked out with the City, is that -- is that the way the windows need to be at, what they typically would be for the season, for the -- for the temperature, for whatever the weather -- weather conditions; that would mean in the summertime, they'd be open -- open; in the wintertime, they'd -- they'd be --

they'd be closed or -- or -- or -- or cracked open. One thing you have to realize is a lot of these schools have ventilation systems which are called exhaust systems, meaning that they basically have fans that are on top of the roof and they pull the air through. You need the windows cracked. Not thrown all the way open, but cracked open so that you get air movement. That's very -- that is very important for the proper operation of some of these older -- older ventilation systems.

MS. AYALA: Next question.

MS. GIORGIO: So, my name is Christina Giorgio. I'm a staff attorney representing the public's interest and our firm has been involved with this journey addressing, you know, the topic of the PCB problem in school buildings. It's my knowledge that we've got parents from the Bronx here, we have parents from Staten Island here, we've got DOE here, we've have EPA here, so it's really great. And, another parent from Manhattan. So, thank's so much for coming. I -- I really want to start out by urging EPA making this PowerPoint available immediately; send it out, it's a great PowerPoint. It's -- it's super

helpful.

So can we have your commitment to do that?

MS. SCHULZ: Yes.

MS. GIORGIO: Fantastic.

So, I think, you know, some folks have raised some of the concerns that I have and I don't want to belabor certain point, but I do want to mention a couple things. You know, in -- what I do for a living, you know, is I try to figure out what my result is in environmental justice issues, it's my time to, you know, we -- our resources are not unlimited at The New York Lawyers For The Public Interest, so we really have to focus on all the issues at hand, you now, PCBs. And I learned a lot this week from your agendas, as we speak, so there's no question in my mind that, that was absolutely a great thing for me to be giving the amount of energy I gave to that. And additionally, me getting here with the knowledge that, that -- you know, it's a big problem that we face. It's more trouble than the cost because I feel like as a result of the study, you just don't know how serious a problem it is and so it's frustrating for me because I don't

know how to calibrate the campaign, I don't know how to calibrate what we're -- when we're talking to parents and so I just share with you that it is a frustration that I have because I'm trying to be helpful in this process and I know that people all over the country are looking at New York City right now and so to the extent you have any type of science that needs to justify, in the sampling or whatever, it's just that it will reverberate throughout the country, and I would really urge the City and EPA to go back and do the panoply synopsis of scenarios, like our distinguished guest in the Bronx had pointed out, because it will give people working on this problem a much better idea of really what is the problem exactly. In terms of, you know, the good points you made about the ventilation systems and we've got the windows, you know, the various scenarios, I do want to say that I heard a couple times tonight that the EPA and the City acknowledged that the ventilation pathways are the most concerned about and that's been identified as the most troubling custodial pathway and yet there seems to be a deep prioritization of New York testing particularly in what the EPA, ORD, or Office of Research and

Development, has identified as a situation that we are very concerned about; when there is an acute event, when there's like a light ballast rupture and you had smoke emission, this -- your own study showed that despite -- and it states the air levels can stay contaminated for longer periods of time, so it seems to me if there is one thing that can come out of this hearing is that to get air testing when we have these types of events, so that parents can know, and exactly know, the EPA can know that there are -- that the occupants of that room are going back into the room in safe air. Particularly, it might be an acknowledgement that it's that continuum, just don't tell us what we need to know about that event. I know that there is a balance in here with regard to, you know, can we talk about how worse this problem is; the 1300 schools 739 buildings, but this is a limited number of rooms. Is it likely to be gone by 2016? Of course, I would like to see more air testing done, but just in terms of the balancing act, this seems like something so manageable and I really urge the EPA to listen to the program.

I have two -- I -- I think I have two questions that -- or three questions that I'd love

to hear your thoughts on. So, first off, I saw in the PowerPoint. It says: That the five pilot schools are representative of the 739 school buildings in terms of construction, architecture, building techniques, and things like that. I want to know, of these five schools, what are the features of each of these five schools that make them representative of the 739 buildings out there? That's my first question.

The other question is: Why aren't we doing -- why aren't we testing more caulk in other schools? You know, why aren't we actually doing more sampling of the caulk?

And then the last question I have is, let's see: How are we going to know if we have another PS 199 on our hands because -- because the remediation protocol and the -- the preferred remedy, I don't think really works for 199, so how do we know whether we're going to have another one of those and I suspect there's a lot of 199's out there, and I'm concerned about this thing happening in all the schools.

And, the last thing I would say is: I just -- I would ask the City to please help the turnout of these meetings. I have had a wonderful

May, going out and meeting with CC's all over the City and it's been -- it brought tears to my eyes like the joy of meeting these parents, but they really have not been informed about these meetings and this is such an important issue going forth with remediation. The EPA really needs to reach out to parents, so I just ask that the EPA has the ability to reach out and to do so.

And, the other thing I just want to say is: Thank you to the SCA and all the hard work that you're doing. I know it's been a real challenge and, I'm very, very appreciative in the amount of the time and effort you're making. And, of course, the EPA with all your steadfast attention to this issue, and we're looking forward to getting a great plan.

MR. HAKLAR: Christina, you may have to remind me about some of those questions you had asked.

MS. GIORGIO: So, I would love for you to walk us through what are the architectural or construction features of the five pilot schools that make them representative of the 739 school buildings in this action?

MR. HAKLAR: What I'll have to do with

the specific characteristics, I'll have to defer to -- to the City.

MR. HOLDEN: The City technically proceeds, but generally, I can give you some parameters. First, we look at the age of the school. PCBs we felt would be the most prevalent in schools built in 1950 -- or they were renovated significantly from 1950 to 1978, so we looked at the vintages of the schools, and we went back to some that were built in the 1950s, early '60s, and then some that were built in the '80s. Ballasts wouldn't be a threat depending upon the years that the schools were built. The materials could be different as well. We didn't know, but we tried to get a -- a range of vintages of the school first thing. We have -- generally, schools in New York City are built with brick and block construction. The newer schools, some of them have a curtain wall whathaveyou, but without using PCBs anymore, so most of the schools, whether they were built in the '50s, '60s or '70s, some type of brick or block construction. And then, I think another very important feature is the type of ventilation. I know Jim mentioned it before. Some of the older schools don't have full HVAC,

that's, you know, a central air conditioning systems; they operate with what was the state of the art at the time; and that is, rooftop ventilation and fans that pull the air out, that's why the windows need to be open because it draws air from the outside, so what we did is: We found some schools that have ventilation systems like that, including PS 199, 309 Brooklyn is another one, and then some of the other schools that were kind of the earlier stages of central air conditioning, I think 178 in the Bronx is a good example of that, to see how ventilation may have an impact on the -- on the schools. The sizes of the schools are different. The populations are different. The classes were -- you know, some parameters; sometimes we have middle schools, sometimes we have elementary schools. 199 is an elementary. So, we have different school populations. So, we looked at all of those things, you know, with my colleagues with the EPA to try to get a representative to cross sample of schools so we wouldn't have -- when we get the various work and activities from the school, the different types of remediation of caulk and the wipe and certainly the ballast, we try to find a

cross-section, as best as we could.

MS. GIORGIO: So, this is -- and, how are we going to know whether there's another PS 199 out there?

MR. HAKLAR: Well, you have to realize that at this point, one of the questions that we asked -- or we've asked the -- the peer reviewers was how do you prioritize the schools. Obviously, schools like PS 199 is of great concern to us. The peer reviewers came back with certain opinions. Again, we are in the -- after receiving all the comments, we will be -- we will be evaluating that and we -- and we still have -- we still have a ways to go with -- with -- with the City to -- to finalize a -- a -- a plan that can be implemented citywide. This is a -- what -- what was presented tonight as a proposed citywide plan. I -- that's my response to you.

Number three?

MS. AYALA: Yes, number three.

MS. GIORGIO: So, this -- this point I'm making is there seems to be a devaluation of the air testing. I think there might have been a series of problems with the air testing.

MR. HAKLAR: One of the things that --

that -- that I usually press on -- on the audience here is that: Under -- under our Federal PCB Regulations, there is no requirement to test the air. We have developed some screening levels, but they are not regulatory levels. They are -- it -- it -- we've had discussions with the City on -- on -- on air testing.

I don't know if the City wants to add anything?

MR. HOLDEN: The only thing I wanted to mention is that as part as the Preferred Citywide Remedy, we are looking at different types of tasks; one is a passive sampling and that is part of the citywide plan, so we will be implementing that and see how that process works, and full consideration in the citywide plan, so I don't think it's accurate to say that there's no air testing, but --

MS. GIORGIO: (Speaking without microphone).

MR. HAKLER: Right. Okay.

COURT REPORTER: Please use the microphone and thank you.

MS. GIORGIO: I'm sorry.

Ross, thank you.

I'm particularly trying to focus on all the options of protocol where air testing is not included.

MR. HOLDEN: And, as part of the program that we will have going forward, we will have ancillary types of testing, methodologies, and we feel, as the report indicated, is that wipe samples are an appropriate response and test after such a situation. Some of the peer reviewers were split, I agree with that, and some of them said that the -- the wipe samples are certainly an adequate methodology, so, you know, we're going to continue working with the EPA on whatever testing may be appropriate, but as far as the re-occupancy protocol in issue of what Jim said, I would like to let you know is that our expert consultants have been working on this for five or six years with us and some of the peer reviewers also believe that the protocols we have in place are shown satisfactory.

MR. HAKLAR: That's it. Okay.

MS. AYALA: Next question and comment.

MS. FOX: Good evening, my name is Evelyn Fox. I am a parent in East Harlem. I am also a community education council member for

District 4, which is in East Harlem. I'm here because they have big concerns. We have so many schools in our district. One of them was built back in the 1800s, so PCB, I'm sure, is probably there. I don't know how informed the administration is and that's one of my concerns about what to look for or whether they've been given information. I know one of the schools right in my community close by where I live, parents were given a letter about PCB. There's currently a school there that houses kindergarten. So there are several schools that occupy in that building along with the District 75 special ed, so parents are concerned about, and they don't know enough information. I think it's -- my question is: Is it possible to have a presentation like we have here in my district because I'm sure administration as well as parents would like to be more informed about what's being done and actually how the testing -- you know, whether there building's been wiped down, so that's my question.

MR. HAKLAR: Thank you. I appreciate your comment. You make a good comment and a good point. We'll get back and we'll discuss it and we'll follow up.

MS. FOX: You mentioned the peer reviewers. Who is that?

MR. HAKLAR: Peer reviewers were plain individuals who were from environmental companies and one was from the university, and they all had some type of experience with PCBs. It wasn't a situation where someone was selected that knew about water, but didn't know about PCBs. They were people that worked with PCBs.

MR. MADDALONI: Can I add something too?

MR. HAKLAR: Sure.

MR. MADDALONI: Hi, I'm Mark Maddaloni. The peer reviewers are independent. That's an important part of the work here in the contract to make sure that those peer reviewers had no conflicts of interest, that they weren't working for New York City, or for EPA, or for anyone else. That's very important part. Not only do they have to be experts in the field, but they have to have no conflicts of interest.

MS. FOX: Thank you.

MS. AYALA: Number six?

(No response.)

MS. AYALA: Number seven?

MS. FREEMAN: Hi, I'm Debra Freeman. I'm an executive board member of the Salk School of Science. We're one of the schools that's waiting to get PCB removal starting in the fall. My understanding is that right now the schedule that is in place is reflecting that it will take place starting at 4:30 on Friday so that it could be done on an expedited basis in mind with the schedule. While I would to applaud the expediting of the process of getting the PCBs removed, I know that when I first read how long it was going to be, I was horrified at the same time, I would -- I have some concerns that I feel that the plan is being rushed into perhaps without sufficient looking at the safety and insurance that to the extent the safety of the children in the schools and the administration and everyone working in the schools can be assured to the best way possible. Looking just quickly at the documents that are available, I've got several concerns. One of the concerns that I follow mentioning that additional studies were required and that none of the alternatives that PCB has been shown as a sole remedy to have long term effect. That just certain jumped out as something that concerned me.

I've shared my concerns with prior to the exhibition of the air testing. I think that's really important. I have some concern of the safety precaution in the classroom. They tend to be insufficient, but I'm not asking the unmovable furniture, just putting one layer of coating, does not mean to me to be perhaps sufficient. Given the time that it's being done, for instance if the Salk School of Science is taking place on Friday, the kids are coming back in the classroom on Monday, that seems to me to pose a very big concern because it seems difficult for me to imagine for efficient cleaning to take place if there really was concerns. I had concerns about dust control, cleaning, I had concerns about the modification and I just overall want to make sure that everything is done to really use best practices in this area. I also feel like there has not been sufficient notification. I know that notices have gone out, but I find that when notices go out, they kind of get parents are not likely to be very focused on the issue. I could tape the meeting tonight at the time at the very end of the school year, when meetings have come together like this, it is a very difficult time

for parents to get a meeting like this. And, thank you for my time. I do again applaud the rush to do this, I just really would like this to be working to make sure it gets done really using best practices in the safest possible way to protect our kids in the schools. Thank you.

MS. AYALA: Number eight?

(No response.)

MS. AYALA: Nine?

So we're just going to open the floor to anybody that has a comment.

MR. KUPFERMAN: I'm Joel Kupferman from the New York Department for the Law and Justice Project. I've been in this auditorium 12 years ago -- 13 years ago after 9/11. I was retained as the attorney for the parents, concerned parents, of Stuyvesant. There was a big fight over the toxicity and the cleanup of the school, particularly this auditorium. We fought from night to night to get the seats clean. We fought for nights to make sure that the curtain that was here was well treated for dust and later be removed in the right way. It wasn't removed in the right way. It was removed in the middle of the night. It was dragged up at school creating

toxic problem that took a long time to fight, but this peer review, we really get the City and the feds in terms of what they do and also in terms of testing. Also, we're concerned about: Were there any biomarkers, has there been any human help, evaluations described for the students or the workers?

MR. MADDALONI: Well, the City has the final word. Not to my knowledge.

MR. KUPFERMAN: And, it just -- it's hard -- Christina and I have a hard time of not alarming people to be, you know, too concerned, but also we just don't want people to just receive and listen to what the government is telling you and basically saying, you know, relax, we're trustworthy. PCBs just recently has been declared to be considered by the World Health Organization, so a lot of the regulatory restrictions and requirements that you have been told about tonight are behind the science. The science is ahead of those regulations. One of the words liked is best practices, what the government could do, not what they have to do, but what could they do. Okay. The one thing we learned from 9/11 is that we -- we didn't do enough testing. We also didn't put

enough protection for the people doing the cleanup, so it's important that every case that -- that goes on here that we really make sure that the workers are protected. That it's not just relying on custodians. It could be double checked and triple checked. Cleanup is a big business and what happens is that without vigilance from the outside and from the inside, people get a little sloppy. It happens in every case. We really want to make sure that it's there. And also, the law project is backing the PCB business because we've been -- we've just been retained to represent workers who have been, you know, exposed to this stuff, so there's a lot of good literature out there, and looking at those, we're talking about the City, and the Feds, the state should be involved a lot more, and they've been reticent in terms of -- of -- of their actions, so we're available to talk. As we said before, please be vigilant. And also, we're really concerned about health evaluations. It's a little scary to hear that no one is being tested. There are biomarkers and ways of testing and the City this large with this many students and these many workers in this City of teachers, there should definitely be some

kind of health testing. We should ask why isn't that happening.

Thank you.

MS. FREEMAN: Again, this is Debra Freeman from the Salt School of Science. I wanted to add one thing following up on the issue of the timing from other standpoints besides safety and health and it has to do with doing it in a way that allows a school to be used for what the schools are intended to, it's not just for teaching, but there are after school programs. One of the City's movements that the mayor has been supporting right now is making sure that all the middle schools have after school programs, is providing free after school programs to be available to all the kids to help with home environment, to help with students that don't have a home environment that is really a good place for them. Well, right now the after school programs are supposed to take place until 6:00 everyday to help parents that are working and if the example of Salt is any example of what's going on in other schools, then they're going to be doing this at 4:30 on a Friday, that will mean that one of the five daily after-school programs will not actually

be able to be run, so I think there's a direct conflict between the support for these after school programs and how important they are and the fact that the cleaning will be taking place, and be aware of the two things that the after school programs and the fact that I think it's very hard to believe that in a short time between Friday and Monday, sufficient cleanup can be done. I think there is a strong argument to me for doing it at another time, like the summer or on school vacation when there is a longer time period for cleanup.

Thank you.

MS. RAVITZ: I'm Amie Ravitz. I work for the Local 32BJ as an attorney and also I oversee the schools grievance arbitration work. My question is very specific. I'm sort of getting acclimated in this world and, of course, you represent the cleaners, many of the cleaners in the New York City public schools. And, I just want to know what, if any, resources there are that examine the intact caulk exposure with somebody who works with the physical materials and cleaning the classrooms within the schools. In other words, I understand there's a certain amount

of discussion about remediation plan for intact versus deteriorating caulk, but I still haven't -- I haven't been able to find a resource to look at, you know, what happens if every night for eight hours you're cleaning these classrooms and nothing's broken, there's been no catastrophic incident, but that's what you're doing all day. So, is there a resource that I -- that I can be referred to or --

MR. HOLDEN: My name is Ross Holden. I'm head of the School Construction Authority. Really, we do the construction in schools, like we know what we do as far as the caulking when we do a capital project, but I'm not conversant in the work that the custodians do everyday. As part of our work with EPA, there is a circular that has been provided. It has various protocols in it that should be followed and becoming the best way to handle the caulk. For instance, if a custodian doesn't need to clean it, but rather notifies the other to bringing in an environmental consultant contractor with whom the schools facilities has contracts so they can be handled in an appropriate way. As far as the SCA is concerned, when we do a capital project, let's say, of window replacement,

we do have to follow certain protocols that we've created in addition to other protocols that exist that are statutorily regulatory guidance, such as asbestos removal or the like, but as far as handling PCBs, that is done with contractors who are appropriately trained to do that. We test to make sure there aren't PCBs that we are gong to dispose of the construction debris and the right landfill, so that type of thing, so I can take back your question to the Department of Education, they may be able to provide a better arrangement than I can.

MS. AYALA: Any other questions or comments?

MS. RESUMA: Hi, good evening, my name is Carmela Resuma. I work for the DOE, the Deputy Chancellor Kathleen Grimm.

And, I just wanted to address that very few people were talking about parental petition that our office helped manage concerning conditions in school facilities and we're very concerned about the petition with that labor. Parents are not getting involved or letters not going out, please alert us because we are actively managing that process and we are ready to repeat

the program.

Thank you.

MS. GIORGIO: Where can we contact you?

MS. RESUMA: I'm sorry?

MS. GIORGIO: Where can we contact you?

MS. RESUMA: You can either contact me directly, or Deputy Chancellor Kathleen Grimm, that's fine, or send an e-mail to her coordinator and her e-mail is available on the website.

MS. AYALA: Any other questions or comments?

MR. KRAFT: I just need to spread out here a little bit. My name is Dan Kraft and for 30 years, I was responsible for the Region 2 PCB Enforcement Program, and was involved in the beginning of the Pilot Program overseeing the Pilot Studies during 2010. Commenting on the comment the gentleman made earlier about testing under worst-case conditions as opposed to having windows open, at the last hearing, I also made that point. And, I think it's very important to understand that what would make parents happy or relieved, how can they know that their children are safe, how can we know that the staff in the schools are safe from harmful exposure to PCBs.

And, I think to be -- to have a solution protective of health, you have to first of all look for PCBs under the worst-case scenarios to determine if it's possible to find PCBs above the EPA guideline levels. If we can agree that the health guidelines that EPA developed are protective, and so if the levels are below that, we have some confidence that -- that the children are in a non-harmful environment. When you looking for a worst-case scenario, you have to exclude the outside air when you're collecting samples. Many times the outside air was tested during the Pilot Program and -- except for one instance, all of the results come back non-detected. We do not expect outdoor air to have noticeable PCB concentrations. If we find it under the worst case sampling conditions, then it seems to me there are two alternatives for addressing the problem: One, is to identify and remove or contain all the capacitors of PCBs in schools; and the second, if you can't do number one, it's to ventilate with outside air to dilute any PCB air levels to prolong EPA guidance levels so that the children are not exposed to higher levels. If you have to use number two, however,

we should prescribe maintenance of sufficient ventilation to ensure the low levels. Now, the peer reviewers, one of the questions there were asked is: Was the report comprehensive. And, I have found, and I commend the City for their voluminous work that they've done over the past several years, but I found that the reports in general were very difficult even for me to critically evaluate, certainly I think for a normal parent that doesn't have any experience in this area. And, you really have to go back to the original data. And, I would like to quickly show how -- the way the testing was done, outside air played a significant role in the low numbers that were found. The comment was made earlier that the belief is that PCBs in fluorescent light fixtures are the most significant source because the levels were significantly reduced after these fixtures were removed. Well, one thing that happened with the air testing after the fixtures were removed is that instead of keeping the windows closed when they were collecting the air samples, the windows were open. Let's start with PS 178 or 176 in the Bronx. If you look at that data, when we started with the City, they wanted to have all the air

handling system operational in schools with their handling systems, and where they have exhaust ventilation, they wanted them operational. We -- EPA agreed, but we wanted the windows closed. Now, a school that has an air-handling system, delivers and returns air from a classroom or other space. It exhausts some of it to be outside the building and it brings in fresh air, so it's very possible when you're collecting the sample to have fresh air being blown into the space you're trying to measure and the result will be a low value. And, when they began to test, okay, the very first round pre-remedial testing, 50 percent of the spaces of the classrooms, and only four were tested, and it's important to keep in mind that throughout the different testing schemes, it was only a representative sample, about 15 percent of the spaces that were tested, but pre-remediation, 50 percent of the classrooms did not meet the guideline. After remediation, which was patch and repair, none of them met it, so the values came in -- were even higher. Then they ventilated the area, opened the windows, blew it out with fresh air, which was -- which was agreed upon, and retested. Now, only 27 percent of the -- of the

15 rooms that were tested met the EPA guidelines. After the post-fixture replacement, only 69 percent met the EPA guideline and of the five schools that didn't meet it, there was supplemental cleaning and three of those five schools didn't meet it, didn't meet EPA guidelines. They looked at the air handling system and they discovered that it was broken in that the amount of outside air they were bringing in was not as much as was indicated on the controls, so they fixed it to make sure they were getting sufficient outside air ever since everything meets 100 percent of the standards. In PS 309, the first set of pre-remediation samples that were taken all six schools did not meet the EPA standard and to refresh people's memory, for kindergarten and pre-kindergarten, the standard is 100 nanograms per cubic meter there and for 1st grade to 8th grade, it's 300 nanograms. In the first round of testing, the minimum was 838 nanograms and the maximum was almost 3,000 nanograms. This was testing with the exhaust systems operating, but the windows closed and the doors closed. The City immediately did a second round of testing and those results came

back even higher. The average was 1638 nanograms per cubic meter and the maximum was almost 5,000 nanograms, so they did the remediation and they sampled again and all six classrooms again failed to meet the standard. The levels were low. The highest was 1800 nanograms and the lowest was a little less than 300. Then they ventilated and about that time because they found such high levels, they were tasked to identify the source and they began -- EPA had no idea why these levels came back to high. We did not observe anything in the school with respect to the light fixtures, there were no evident leaks. The City did not test the window caulking in that -- in 309 because there had been a complete window replacement completed two years earlier and I guess the thinking was that shouldn't be contaminated, so they didn't test, and, in fact, in the classrooms that they tested in PS 309, they were unable to find other material, caulk-like material, that qualified as PCB caulk, so here they felt they had no PCB caulk in the classrooms and yet you get a reading of 5,000 nanograms, so they looked at the light fixtures. They opened them up and within a few days, we were notified that the City would

undertake an emergency light replacement project in both PS 309, PS 199 and in 178, they would remove the light fixtures in the classrooms that they were studying, the areas served by the one air handler, so they began to do that. Now, this happened in -- about the first week in August, and as you know, school starts in September, so they were under the gun to really get this completed in two weeks. Now, there was another sampling post ventilation. Before, I believe they took the light fixtures out. This time, however, they opened the windows. One hundred percent of the spaces met EPA requirements. What is the impact of opening the windows? The City did a study in PS 199 and found that if the ventilation system's on and you, when you open the windows, you get between 15 and 44 air exchanges over the six hour, roughly six hour, period that it takes to collect the sample. So, you can imagine. You want to measure the PCB concentration in a classroom and while you're collecting that sample, over six and two-thirds hours, you're having 16 to 44 air exchanges of the air in that room while you're trying to collect a sample, so to me, it's not surprising that you don't find any PCBs. Now, to

take this to the extreme, the school that they were given to test light fixture replacement, PS 3R Staten Island, they did their preliminary pre-remediation testing. This time, even the windows were open or the air conditioner was used while it collected samples. None of the samples flunked. They all passed. And, they hadn't removed any PCB- containing fixtures. What kind of contamination did they find? Was this some minor contamination? In PS 309, they found 62 percent of the fixtures either have leaking PCB ballasts or evidence of historical leakage. In PS 199, 68 percent of the fixtures either have leaking PCB ballasts or evidence of historical leakage. In 178X, 43 percent of the fixtures either have leaking PCB ballasts or evidence of historical leaks. In 3R, the types of data reported was different. They didn't tell us how many PCB capacitors or how many that were leaking, but they reported that 90 percent of the fixtures were contaminated and 95 percent of the ballasts were impacted, yet before any of the removal, they met EPA requirements, so I think it's important to look first at a worst-case scenario and then look how you can either remove PCBs or require

sufficient ventilation to dilute any PCBs that might find their way into the air and make sure that the students are not exposed to high levels. Now, there's an ongoing routine monitoring to look at the fixtures for visible leaks, but the protocol issued by the Department of Education to the custodians and the building managers, tells them: Do not open the ballast covers or remove the light diffusers on your inspection. Just look for visible leaks. Well, I think the only kind of leaks that are going to be observed are the catastrophic leaks. We had no evidence of leaking in 309 and yet, 60 plus percent of the light fixtures were impacted. Now, initially EPA requested that the City in view of this takes steps to, as quickly as possible, change all the light fixtures in the schools. And, EPA in early 2009 did inspections at nine schools. They also found widespread occurrences of leaked PCBs. This is not something that just happened yesterday. It's evidence that these leaked PCBs were present for many years and, in fact, in 1979, the City, it would have been hoped, had been on top of this and been inspecting or at least made known to the custodians that if they have a ballast failure, if

there's any residue, they have to have it properly cleaned up, so this is a -- is a problem that has been brewing for over 35 years. Thank goodness that the New York Lawyers For The Public Interest has agreed with the City to at least expedite the removal of the remaining light fixtures. That's it for tonight.

MS. AYALA: Thank you.

MR. HERNANDEZ: Again, I'm Eduardo Hernandez. A parent from the Bronx. Every study can be bias. And even famous researchers in Academia have been caught years later playing with the numbers, that's why I'm always taking results of any study with a grain of salt because that's up to the ethical morals of the researches. How come the EPA has been putting -- give this part of this studies to an independent -- not just the peer review, but the study itself to an independent group? I know in City College you got people that are working that are working with the EPA and consult the samplings of the air. I happen to build stations and I know the work. You have a relationship already with people at Academia City College doing aerosol studies. How come you haven't approached them to come to do --

to be more independent studies, a more -- a really stronger study? You know, I'm -- you -- you -- accepted with less values.

MR. HAKLAR: One of the -- one of our biggest concerns was that the peer review be independent and we went through a very lengthy process to -- with our consultant to make sure that the peer reviewers that were obtained were independent, that they were involved, that they had the -- the knowledge and the expertise to review the work, but that they weren't in anyway involved specifically with -- with New York City or with New York City, with any of these activities because we didn't want the bias and what came out of that vetting process were the three peer reviewers.

MR. HERNANDEZ: But I'm not talking about the peer reviewers. I'm talking about the researchers themselves, the data collectors. Those are the ones that need to be dependent. The peer reviewers don't even know -- they can't be fooled into the methodologies of the data collection. They're only going to review the data. And subject to the integrity of the research itself, but the data collected -- I'm

talking about -- not the peer review because every study that is published in any major publication, it goes through peer reviews and then years later you find out that whoever was the original researchers ended up cooking books and falsifying the data. I'm talking about the data collectors be independent from the DOE, so you have a real legitimate data.

MR. MADDALONI: Again, Mark Maddalone with EPA. When EPA conducts and performs a study, we have what's called a Quality Assurance Project Plan to ensure that the data is collected in an unbiased matter.

Now, I would ask anyone at the City to comment on your complimentary type of arrangement to insure quality assurance in your project plan. Gary, would you care to comment on that.

MR. HUNT: Yes, I think there is another thing that I would add is that the Quality Assurance Project Plan is written in a particular format and was reviewed by EPA. EPA actually also did some complimentary work at another school from the City of New York that was not part of the Pilot Study, and they actually reviewed the data in the SCA report and said that it was -- it was

of satisfactory quality, so I think that what you're asking, I believe if I understand you correctly, is having a completely independent party, not the City, not EPA, contracted to do the work.

MR. HERNANDEZ: Yes. It's really they can't handle this kind of stuff --

MR. HUNT: But I think the bias.

MR. HERNANDEZ: -- need to be more thorough than -- itself.

MR. HUNT: Well, I guess I might differ from you because when you have a Quality Assurance Program that's put in place, the intention of it is to remove bias regardless of who's doing it. It's a plan that basically -- statistical analysis, repetitive analysis, collocated samples, all sorts of quality assurance provisions that were all part of these programs that -- to ensure that there was no bias, and no one, as you say, was cooking the books. That didn't happen.

MR. HERNANDEZ: Yeah, but this sampling --

MS. AYALA: Excuse me. Because they're transcribing the meeting. You need to come to the microphone, please.

MR. HERNANDEZ: Yeah, but this sampling, just to get the best-case scenario, the windows open, that doesn't sound right. It really doesn't. You got to understand, researchers sometimes they are bias depending on who it is -- who's funding this research? Sometimes they become bias just from that, so you -- the research is alined to what is it that the funding wants to get at and you can figure, regardless of the quality -- everybody, even Academia, they all got quality reviews, but they all know that even with a set of numbers, you can twist it and manipulate the same set of numbers to get whatever results you want. We read the same numbers. I can give you -- like even the City, it tells you 30 percent, oh, it's improving, really. Really. Great. Yeah, 35 percent. Okay. That's 35 percent. How about the 65 percent that it failed? So you can always give the result that you want based on the funding. Now, if you allow, you come in. City College have good program and they have equipment and they have the personnel already in place doing this kind of work for years. They even have -- I know to work with the EPA. Because I know people that go to Manhattan to collect

aerosol samples from your sensors from the building. They do have those, so why don't you approach them. They're independent. They are Academia and they've been doing that. And you get a really objective result. Not what you want to hear, but they give you more objective results that you can base your decision on. This thing doing windows open, that's nonsense. Of course, you're always going to get good data. It doesn't matter that you get a million hours of sampling. If you do it wrong, that's useless. That is useless.

MR. HAKLAR: Okay. Thank you. We hear your concern and we will respond in our responsive summary.

MS. SCHULZ: Hi, I would just like to say that no one was trying to cook the books or cook the numbers. That basically, the sampling was done under a real-world scenario; I mean in the seasons when the windows were closed, sampling was done with the windows closed, in the seasons when the windows were opened, sampling was done with the windows open. It was just trying to find out what the children are exposed -- and teachers are exposed to everyday in the real world.

MS. AYALA: Any other questions or comments?

MS. FREEMAN: I have a question. I guess following up on the air, with the windows are open. You know, understanding that apparently that was the intention to sample based on real world circumstances, keeping windows closed during that area, but in light to what was pointed out before with how radically different the result can come out based on having the windows open, I'd like to hear addressed how you feel that, in fact, the testing can be accurate when having outside air can make the results inaccurate and drastically inaccurate.

MR. HAKLAR: Well, I guess I have to differ. We don't believe that the sample is inaccurate. We sample under what we believed were real-world conditions, typical conditions. We weren't hunting for the worst case of the worst-case scenarios. We went for the initial sampling if there were PCBs there, our goal was to see what our children are being exposed to. Children are not being exposed to the worst-case scenarios. We're looking for -- we were looking for what was actually occurring in the classrooms.

Mark, do you want to --

MR. MADDALONI: Mark Maddaloni. Just more sampling in the toxicology risk assessment. So, if we were -- had started, we need to ask ourselves: Is there a PCB problem in a particular school. At that point, that's what we might do. A worst case. Almost seal up the class room. This is to see if there is even the possibility of a problem. We already know that. That's history. That -- this is an issue that needs addressing, so that's water under the bridge. At this point, what we really need, what I need to know as a risk assessor is what are people being exposed to day in and day out. And, every building, this room, has some air exchange rate. There are standards that apply. I am not an engineer. I don't know them. Maybe Gary does. Three to four air exchanges per hour is generally what most buildings recommend, so that's normal and that's -- it would be unrealistic to test in hermetically-sealed rooms because children would not be able to learn. They wouldn't be able to live in a room like that, so that is not what would be appropriate. So, again, we can argue and obviously people have some questions about what is

most realistic. Should the windows have been open just a little less or a little bit more, those are legitimate concerns and that's why we are here to hear those, but to say that we should have done all testing under worst-case conditions, is not helpful to risk assessment.

MR. KUPFERMAN: Joel. We had two questions. I guess that we can say that risk assessment is the size of the sample and also the problem is with averaging. What happens is you keep on averaging out and you are always going to come out to a number that's going to be above adjustable, you know, levels. I think the bottom mark is that you have so many schools, that when you have that many schools, some are going to be the worst-case scenario. You just can't just take a few or five schools and say that's, you know, an adequate sampling. The other concern that I have is that I've been brought in by a few parent of schools that they were concerned about the construction next door, so opening the window, you know, in someways lowers PCBs, but also introduces all the PM dust and everything else that's there. The real case scenario is that if you're going to test with the windows open, that you should also

test more than just PCBs. That New York State leads in diesel-related deaths in the country. There's a lot of schools that are right near all the trucks and the buses and everything else, so I think with the students are entitled to is a fuller study and not just, you know, an obscured study. And I guess that's, you know, my concern. And the other concern is just going back to the health test. I mean there also -- was there any -- did EPA consult with any other federal agency about this problem that tests PCB or anyone else?

MR. MADDALONI: We are working right now with National Institutes of Health and National Institutes of Environmental Health Sciences to try to refine the toxicity database essentially when it leads to inhalation exposure of PCBs. So, most of the studies have been done on all exposures because up until this point, mostly it is believed that PCB exposure was from diet and it still is a significant source, but we are working with our sister agencies at NIH mostly to improve that database.

MR. KUPFERMAN: There is also the understanding, correct me if I'm wrong, that

inhalation has been considered to be a growing area of concern.

MR. MADDALONI: It's a significant -- it's the most significant exposure pathway, as Jim said, the PCBs in schools. And for the question about from 32B, about the custodian, I wouldn't worry so much about that. In fact, I would be very proud of your custodians because they did a remarkably good job of keeping these schools clean, and they're not getting exposed to much. And they're not putting their hands in their mouths the way kid do. That's not an issue. Our issue is with inhalation exposure and that's why EPA has been recommending indoor air -- indoor air testing.

MR. KUPFERMAN: One more concern is the reliance on the mechanical ventilation. New York City law and the sanitary code, you're not allowed to have classrooms in elementary schools below ground because there is a belief that the mechanical ventilation systems sometimes fail, so here we're talking about the air exchange isn't so much on the windows, but relying on the ventilation systems. There are so many schools that the ventilation systems is not working.

Okay. So I think that should be an assumption that -- that we should look at the worst-case scenario with the fact that you just can't rely on mechanical systems that are continuously breaking down, you know, in the City. So I think we definitely -- the more and more I hear of what's been going on and also the City's past history of not fixing the problems, that there should be concern and also all the mechanical ventilation systems should be tested and those results should be allowed to be reviewed.

Thank you.

MS. FOX: Again, my name is Evelyn Fox. He characterized when you said ventilation system. One of the schools where we got a problem about PCB, which is a commonly used area which is the cafeteria where there are five meals in kindergarten. You know, there's two schools that share -- actually, three schools that share and what is confusing to me because you said the ventilation in schools -- this cafeteria is in the basement, there's a school in the basement, so I'm sure that the ventilation system in a basement of a school is not accurate and I don't know whether the testing has been done on that. And another

concern is: Is the highest concentration in all of Manhattan of asthmatics in East Harlem where our schools are located. In fact, we have a pilot asthma clinic that was put in our neighborhood, so I don't know how much -- how many of our asthmatic students are suffering more now and have been more chronic as a result of what's happening. That's all I know. That, that's being factored into the priority making sure to be taking of it.

MR. MADDALONI: Mark Maddaloni. As Jim said, we believe that improved ventilation will have multiple ancillary benefits and one of them clearly is dealing indoor air quality as it relates to allergies; so the better we ventilate the schools, the better it's going to be for everyone that is breathing the air in those schools. It's a very important part of the overall remediation plan.

MS. AYALA: Any other questions or comments?

MS. FREEMAN: This is Debra Freeman again from Salt School of Science. And, this comment has to do with parent notification and one of my concerns with it. And, I'd say that my biggest concern with it is that I feel that one of

the reasons parents also don't show up and raising up about this issue so much is because I think that some of the notices have gone out tend to minimize the concern and make it sound like: Okay. Well, this is going to happen, but don't worry, the levels are really low, it's not anything to worry about. And, that's, of course, not what it says. It is more complicated than that, but I will say that, that is really what the bottom line of what comes across to a parent, and to a parent who is not very heavily involved, I think the tendency is to say: Okay. Nothing to worry about, if they read it at all. And so, I think the messages are too long and don't really make people fully aware of the concern. And, while you don't want to overly alarm people, perhaps, I think on the other hand, this is a serious issue and it wouldn't be taking place in the first place if it wasn't a serious issue, so -- and I don't think people really realize it is.

Thank you.

MS. AYALA: Any other questions or comments?

(No response.)

MS. AYALA: With that, I'd like to thank you all for coming out tonight. You have until June 30th to comment. And, we're having another meeting on Thursday the 5th at Queens Gateway School in Queens.

Thank you all for coming.

(THE PROCEEDING CLOSED AT 8:30 P.M.)

I N D E X

REPRESENTATIVE OF LOCAL ELECTIVE STATEMENTS:

COMMENTS / QUESTIONS / ANSWERS

C E R T I F I C A T E

STATE OF NEW YORK)
: SS.)
COUNTY OF NEW YORK)

I, MARIA R. LUCARELLI, a Notary Public for and within the State of New York, do hereby certify that the foregoing is a true and accurate transcript, to the best of my ability, of the within proceeding as reported by me stenographically at the place and on the date hereinbefore set forth.

IN WITNESS WHEREOF, I have hereunto set my hand this 16th day of July, 2014.

_____
MARIA R. LUCARELLI